

# Spaceport News

America's gateway to the universe. Leading the world in preparing and launching missions to Earth and beyond.

<http://www-pao.ksc.nasa.gov/kscpao/snews/snewstoc.htm>

John F. Kennedy Space Center

## KSC reaches out for Days of Caring

Kennedy Space Center lent tremendous support to the area community during United Way's Days of Caring/Make A Difference Day Event Oct. 26 and 27.

NASA and contractor employees worked at various locations in Brevard County, including Baxley Manor, Spacecoast Center for Independent Living, the Child Care Association and PREVENT! Of Brevard.

"We had an outpouring of volunteerism this year. It was very inspiring," said Celene Morgan, NASA community relations coordinator for the event. "Our volunteer numbers were up about 20 percent."

KSC leaders believe the event is a great way to provide employees with an increased awareness of the needs of the Brevard community while at the same time showing the local community that the work force at KSC cares.

Local community members are very supportive of the space



KSC team members serve Baxley Manor residents during Days of Caring. The servers are (from left) Aneta Ott, Dana St. Jean, Betty Valentine and Bet Eldred.

program and KSC team members want them to know that KSC is very concerned about the community they live, work and play in, Morgan said.

Aneta Ott, NASA program training coordinator, was one of the 111 NASA employees who volunteered for Days of Caring this year.

She participated in the event six years ago at Baxley Manor and since then has made once-a-month trips to the nursing home to bring food and paper product donations to its residents.

"When you see the excitement in the faces of the people you are reaching out to, that's the greatest

reward you could ever receive," Ott said. "It makes you want to do more."

Ott, who enlists her coworkers to support her Baxley Manor efforts, was recently honored with a You Make a Difference Award.

KSC employees typically account for a large percentage of Days of Caring volunteers.

Before the event, a letter from the Center Director goes out to all NASA employees asking for their support. Some organizations make a decision to work as a team and others choose to do whatever they would like to do individually.

Contractor groups organize their own participation.

"Our community counts on the wonderful folks at KSC each and every year," said Suzanne Sparling, spokeswoman for United Way of Brevard. "Volunteers from NASA at KSC as well as contractors are always there reaching out, willing to make a difference through Our Days of Caring projects."

### Inside

**Page 2** – Workers honored in "Recognizing Our People."

**Page 3** – Automated defibrillators to help save lives on Center.



**Pages 4-5** – *Spaceport News* goes inside the MPLM.

**Page 6** – USA reduces deviations by 65 percent.

**Page 8** – STS-2 launched 20 years ago.

## Pad SCAPE Base unveiled

### 70 workers get new home

The opening of the new LC-39 Pad SCAPE Base Oct. 30 marked another step towards supporting Center Director Roy Bridges' goals for Kennedy Space Center. "Safety and Health First is one of KSC's guiding principles," Bridges said.

"We can be proud. This facility will enhance the quality of life for our very important workers."

Self Contained Atmospheric Protective Ensemble (SCAPE)

(See BASE, Page 3)



Cutting the ribbon on the new Pad SCAPE Base are (from left) Wally Schroeder, Jones Edmunds and Associates; Center Director Roy Bridges; Chris Fairey, director of Spaceport Services; William Pickavance, USA vice president and deputy program manager; William Chivers, Rush Construction; and Mike Leinbach, NASA launch director.

# Recognizing Our People

## Awards

### Silver Snoopy

**Edward Baglioni**,  
Boeing Human Space  
Flight & Exploration  
**Ellen Brown**,  
Boeing  
**Samuel Haddad**,  
Safety Health & Independent Assessment  
**Michael Haddad**,  
International Space  
Station/Payload  
Processing  
**John Halsema**,  
External Relations &  
Business Development  
**Stephanie Hopper**,  
Boeing  
**William Jones**,  
Boeing  
**Andrew Knight**,  
United Space Alliance  
**Emery Lamar**,  
Space Shuttle Processing  
**Richard Mizell**,  
Space Shuttle Processing  
**Ronald Morris**,  
International Space  
Station/Payload  
Processing  
**Michael Olejarski**,  
United Space Alliance  
**Karen Pardy**,  
United Space Alliance  
**Henry Schwarz**,  
Space Shuttle Processing  
**Diane Stees**,  
Space Shuttle Processing  
**James Stewart**,  
Boeing  
**Lorene Williams**,  
Workforce & Diversity  
Management

### Addition

Employee of the Year Bet Eldred was not listed with other employees honored in the Oct. 26 issue of *Spaceport News*. Eldred works in the Workforce & Diversity Management Directorate.

## Workers win QASAR Awards

Seven NASA and contractor employees at Kennedy Space Center were honored this quarter with the Quality And Safety Achievement Recognition (QASAR) Award.

The QASAR recognizes individuals who have displayed exemplary performance in contributing products and services and a safe environment and processes.

The award is sponsored by NASA Headquarters' Office of Safety and Mission Assurance.

The director of KSC's Safety, Health and Independent Assessment Directorate makes the final selection of QASAR recipients at the Space Center. The honorees:

- **Jeffrey Anderson** of Space Gateway Support (SGS) was selected for a QASAR Award because of his leadership and commitment to safety and health excellence, which has significantly benefited SGS and the Voluntary

Protection Program.

- **David Diedrich** of United Space Alliance (USA) was selected for going above and beyond to identify a procedural error associated with testing flight hardware and providing the necessary data to validate a solution.

- **Roger Gillette** of USA was selected for developing and implementing the Constraints Automated Tracking System. His dedication and perseverance has resulted in the highest quality product that will enhance the accuracy and accountability prior to starting Shuttle processing and testing.

- **Larry Maggie** of NASA was selected for the exceptional dedication and extraordinary initiative he exhibited during Shuttle processing operations.

His attention to detail uncovered an Orbiter Vehicle anomaly that, if

not corrected, could have caused injury to the flight crew and/or flight hardware.

- **Melanie Moon** of USA was selected for her efforts in identifying a potential operational hazard and demonstrating exemplary behavior to ensure overall personnel safety and well-being.

- **David Wiedemuth** of NASA was selected for diverting a potential oxygen hazard during the High Pressure Gas Tank Oxygen fill operations for the Airlock Assembly, and his dedication to safe operations for the International Space Station hardware and personnel.

- **Brent Wiseman** of USA was selected for significant contributions to Safety and Mission Assurance. His dedication and alertness prevented a potential safety hazard for the Orbiter as well as co-workers.

## Space Pioneers event to honor Snoopy winners

The Missile, Range, and Space Pioneers will recognize Silver Snoopy recipients at their "Fall Gathering" Nov. 16 at the Holiday Inn Oceanfront.

The cost to attend is \$10.

The Pioneers want to contact as many Silver Snoopy recipients as possible, even those not available to attend the gathering.

Details on the Pioneers and the event are available from Pioneers vice president Don Beck. E-mail [zsifter@aol.com](mailto:zsifter@aol.com) or call 632-2466.

The Pioneers is a non-profit organization established for the purpose of providing an opportunity for people associated with missile, space and range activities to meet socially to renew and make acquaintances. General membership meetings are held in the Spring and Fall of each year.



## History presentation

*Brevard County History Volume 3*, which includes historical pictures from Kennedy Space Center, was recently presented to Center Director Roy Bridges by Jim Hattaway, representing the NASA Exchange stores. The sundry stores are selling the book. Pictured from left are book author Doug Hendriksen, author Jim Ball, Bridges, KSC archivist Elaine Liston and Hattaway.

# Center equipped with automated defibrillators

Every year about 250,000 Americans die from sudden cardiac arrest.

The majority of sudden cardiac arrests are caused by ventricular fibrillation (VF), a condition that results in a disorganized cardiac rhythm and inadequate pumping leading to poor blood circulation.

Defibrillation is the most effective way to convert VF back to a normal rhythm.

As a result, the Kennedy Space Center Occupational Health Program launched the second phase of the Automated External Defibrillator (AED) program.

Fourteen AED units were purchased last year as part of the first phase of KSC's AED program.

Six AED units are located in Fire/Rescue vehicles for 911 response, three are assigned to public affairs medical support teams for launches and landings, two are deployed with medical personnel to Transoceanic Abort Landing sites or used at KSC if not deployed. One is in each Fitness Center and one is in the Visitors' Center clinic. Each AED is under the control of trained medical personnel.

According to Dr. John Cinco, a medical officer with the Aerospace Medicine and Occupational Health Branch of Spaceport Services, the second phase of the program will involve training numerous non-medical personnel to qualify them to use the AED, and placing several more units throughout KSC.

Each AED will be located in its own station, and wired to a telephone system that automatically dials 911 and reports the location when the



Firefighter James Kasik with Space Gateway Support checks an Automated External Defibrillator.

unit is accessed. A list of names and locations of nearby qualified AED users will be posted at each station.

An AED allows trained non-medical personnel to perform cardiac defibrillation in case of sudden cardiac arrest due to VF. Time is an important factor in successfully converting VF. Each minute of delay in obtaining a normal rhythm decreases the chance of survival by 10 percent. According to Cinco, few resuscitation

attempts are successful after as little as 10 minutes.

"The bottom line is that AED units save lives," commented Cinco. "KSC has them and we're working to get more."

For more information regarding the AED program, please contact Larry Davis, a health training administrator for Occupational Medicine and Emergency Medical Services at Comprehensive Health Services, at 867-2027.

## BASE ...

(Continued from Page 1)

clothing is mandatory for employees that work with hypergolic propellants.

The new Pad SCAPE Base, located between launch pads 39A and 39B, replaces temporary trailers with permanent work areas for the employees affected by these requirements.

The new facility is approximately 6,300 square feet and provides space for roughly 70 employees. The facility includes areas for SCAPE suit maintenance, storage and servicing as well as staging for SCAPE technicians. It will also be used as a fallback facility during hazardous operations.

Chris Fairey, director of Spaceport Services, served as master of ceremonies. He explained that the Pad SCAPE Base is only a small part of a much larger project.

"This is just one of six facilities being built to promote safety and health at KSC," Fairey said.

Similar to the Pad SCAPE Base, the additional facilities will also provide permanent modern housing in the Launch Complex 39 and Hypergol Maintenance Facility (HMF) areas.

According to Bridges, the projects, with a capital value of approxi-

*"Safety and Health First is one of KSC's guiding principles. We can be proud. This facility will enhance the quality of life for our very important workers."*

**ROY BRIDGES,**  
KSC DIRECTOR

mately \$16,000,000, confirm KSC's commitment to the elimination of deteriorating, unsafe and substandard temporary housing.



Doug Smith covers MPLM foam packing material with Nomex.



From left, John Schiess, Lili Villarreal, Don Stieler and Mike Serra perform MPLM closeouts.



Technicians Jeff Brewer and Doug Smith apply the fire retardant Nomex material to foam MPLM packing materials.

# Inside the



Boeing engineer Bob Pokorny prepares to open Leonardo's internal panels. The MPLM is being processed

Because the International Space Station is a faraway outpost for astronauts, it periodically must be re-supplied with foodstuffs, water and maintenance items. Refuse must be taken away.

And because the Station is a research laboratory that will take on a wide variety of experiments, research racks also must be delivered and returned.

The pressurized carriers used to

transport items to and from the Station are called the multi-purpose logistics modules (MPLMs).

Built by the Italian Space Agency, they are individually known as Leonardo, Raffaello and Donatello.

Leonardo and Raffaello have already flown. Donatello, which has not flown, is being stored in the Operations and Checkout Building.

Raffaello recently was loaded in the payload processing canister and at presstime was ready to be taken out to the payload changeout room at Launch Pad 39B.

The module is to fly on STS-108, which is scheduled to launch Nov. 29. Leonardo is being processed at the Space Station Processing Facility for STS-111, set to launch this spring.

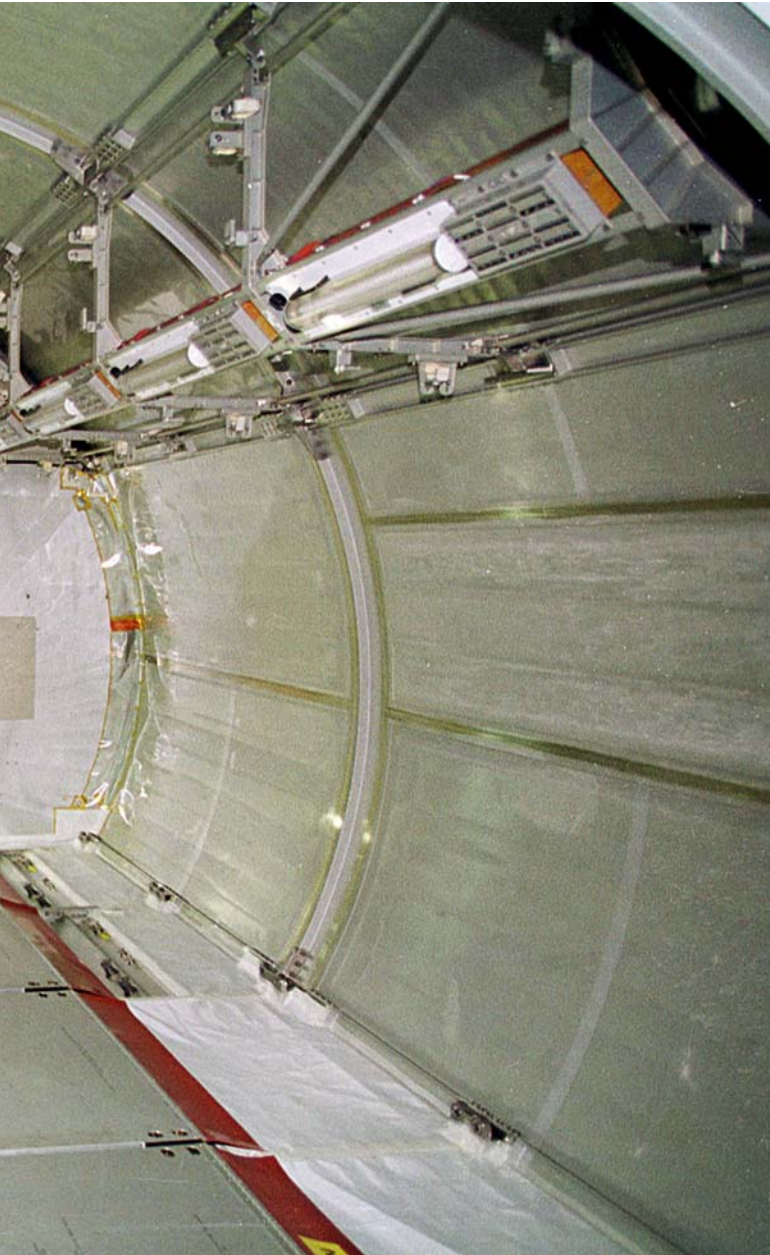
Each MPLM is 21 feet long and

15 feet in diameter. Each weighs almost 4.5 tons and can carry up to 10 tons of cargo.

Unloaded, the modules are relatively simple in design — shielded and insulated containers that can be loaded in four quadrant areas.

Because each MPLM can function both as an attached Station module as well as a cargo transport, each includes compo-

# he MPLM



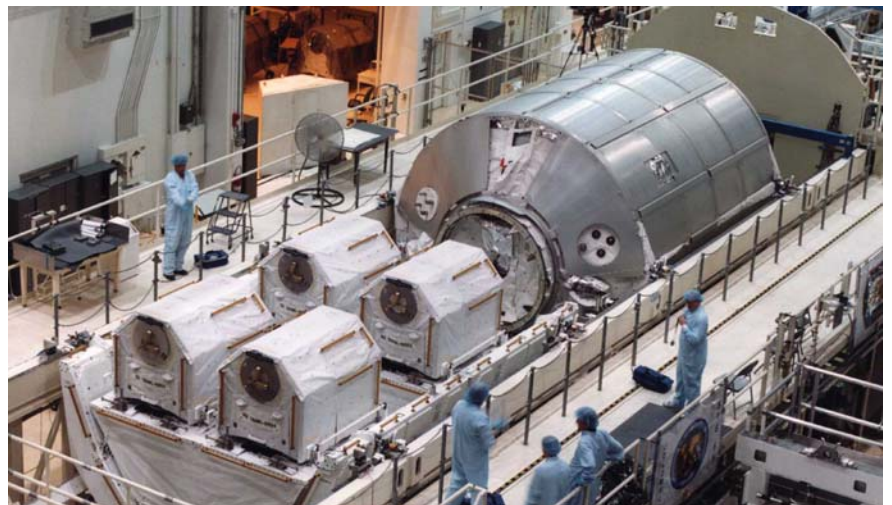
in the Space Station Processing Facility for the STS-111 mission.



Engineer Maria Romero prepares drawings for the creation of foam packing material for an MPLM.



A rack insertion device is used by Boeing workers to help place a rack in an MPLM.



The multi-purpose logistics module known as Donatello is stored in the Operations and Checkout Building.

nents that provide some life support, fire detection and suppression, electrical distribution and computer functions.

A dedicated crew of Boeing payload processing team members empty, repair, test, create foam packing material for, and fill returning MPLMs for their missions.

To easily move the racks and supplies into and out of the

modules during processing, Boeing engineers designed and developed a rack insertion device.

The device's robot-like arm, controlled remotely by technicians, grasps the racks of supplies and experiments and precisely moves them through a module opening and places the racks along the module walls.

On-orbit the astronauts float the racks or the cargo through the

MPLM hatches. When an MPLM returns from a mission, the processing team uses the same device to unload the returned racks with supplies and experiments.

"It's our job to get logistics and research materials up and back as efficiently as possible," said Mark Sorensen, Boeing senior manager of resupply and return. "We'll process these same modules over and over again."

A dedicated crew of Boeing payload processing team members empty, repair, test, create foam packing material for, and fill returning MPLMs for their missions.



## Hubble payload

Part of the equipment to be used on mission STS-109, servicing the Hubble Space Telescope, was moved into a facility at Kennedy Space Center Oct. 19. The primary servicing tasks of the mission are to replace Solar Array 2 with Solar Array 3, replace the Power Control Unit, remove the Faint Object Camera and install the Advanced Camera for Surveys, install the NICMOS Cooling System, and install New Outer Blanket Layer Insulation on bays 5 through 8. Mission STS-109 is scheduled for launch in mid-February 2002.

# Space grant program supports spaceport technology

The Florida Space Grant Consortium (FSGC), the Florida Space Research Institute (FSRI), University of Central Florida (UCF) and the Spaceport Florida Authority (SFA) combined resources to create a grant program that will benefit Kennedy Space Center and many other organizations.

FSGC, a multi-university organization administered by UCF, is part of a nationwide NASA-sponsored network of academic groups responsible for supporting space research and education projects.

Under the grant program, FSGC recently awarded more than \$300,000 in grants to 27 space research and education projects across the state. These projects were selected, on a competitive basis, from among university and industry applicants.

Sixteen of these projects include undergraduate participation.

The eight Florida universities participating in the projects are Embry Riddle Aeronautical University, Florida Institute of Technology, Florida State University, UCF, University of Florida, University of North Florida, University of Miami and University of South Florida.

A similar program was administered in the past by FSGC with



limited funds from NASA.

"Consequent to the FSGC moving to the University of Central Florida, a change of focus and pooling of resources has now made this program more attractive to both university and industry researchers," said Jaydeep Mukherjee, administrator of FSGC.

In 1999, FSRI collaborated with UCF and SFA to add state funds to the grant program.

Edward Ellegood, FSRI's director of Policy & Program Development, said the Governor's Office liked the idea of leveraging multiple funding sources with NASA and focusing the program to support the state's space industry needs.

Kennedy Space Center's University Programs Manager Gregg Buckingham considers the

program a success.

"FSGC has done a great job in recent years in increasing the amount of funding available to provide to students and faculty interested in space-related research. Perhaps more important, they have increased the number of universities receiving grants, so more universities are exposed to NASA-related activity," Buckingham said. "They have also added innovative programs like the Marsport Design Competition in which students compete to design products of interest to the NASA mission."

According to Ellegood, the program greatly impacts KSC and its spaceport technology needs.

"The grant program has funded nearly \$1 million in projects since 2000, including 45 awards to university, community college and industry projects statewide. Our goal is to build interest and expertise within the state's universities to support the expansion and diversification of Florida's space industry. Many of the proposals we have funded are designed specifically to support KSC's focus on spaceport and range technologies," he said.

FSGC, FSRI and SFA are currently reviewing 51 university/

industry proposals received under the latest grant program solicitation. The submissions focus on technologies of interest to NASA, the Air Force and industry, with projects involving micro- and nano-satellites, biotech, suborbital research payloads, Space Station utilization and other areas.

In the future, the program plans to fund more university and industry partnership projects, and promote university support for Small Business Innovative Research (SBIR) projects.

FSGC hopes to expand this program through increased funding from NASA and funding from other government and industry partners.

"In the future, we plan to have only one solicitation per year instead of the two fall and spring cycles we have so far," Mukherjee said.

Ellegood explained other goals for the program: "We also want to increase the visibility and publication of our funded projects by organizing panel sessions dedicated to academic research during annual Space Congress events."

A listing of all grant projects supported by the joint program since 2000 are posted on FSGC's Web site at <http://fsgc.engr.ucf.edu/>.

# USA reduces deviations by 65 percent

United Space Alliance, in a company-wide initiative to improve the written instructions used to launch and maintain NASA's Space Shuttle fleet, is working to minimize changes and additions, called deviations, to Operations and Maintenance Instructions.

These deviations are written by engineers to address needed changes or desired enhancement to existing work instructions.

A focused effort to reduce deviations was established during the second quarter of 1999 by the operations maintenance documentation planning and production (OMDP&P) department and engineers.

OMDP&P has reached and surpassed its interim goal of reducing permanent deviations 65 percent, from 6,420 to 2,250.

OMDP&P was tasked with incorporating existing deviations, while USA's engineers were trained to help incorporate the written deviations to enhance and speed

up the deviation incorporation process.

"I am pleased with the efforts on OMDP&P to focus on incorporating these permanent deviations into the Operations and Maintenance Instructions," said Ed Adamek, USA's vice president of Florida Technical Operations. "Having a single set of directives for each given operation helps optimize the quality and safety of our work instructions."

The Aerospace Safety Advisory Panel in its 1998 report to NASA and the U.S. Congress mandated the reduction in the quantity of permanent deviations.

The goal is to enhance operational performance by improving the readability of the work authorization documents, which dovetails with the USA's goal of achieving customer satisfaction.

USA's initiative of minimizing deviations is further supported by another initiative called Category 1 Documentation Evaluation Review.



From left, Debbie Dorn, Ryan Gilmore and Mike Stevanus review a diagram of the Shuttle. The three reviewed a deviation incorporation process for one of USA's Operations and Maintenance Instructions.

CDER utilizes engineers, technicians, and quality and safety personnel to review and modify all flight documents currently in use.

The CDER process results in a more readable document improved by all of the document's stakeholders. All existing deviations are incorporated during the CDER process.

"The contractor made significant

progress in improving the quality of procedures used on the floor," said Mike Wetmore, deputy director of Shuttle Processing.

"The average number of deviations per procedure is less than one and the majority are issued with no deviations whatsoever."

The next goal for OMDP&P is 1,500 permanent deviations by December 2001.



## Expedition 2

Astronauts Jim Voss (left) and Susan Helms planted a cherry laurel tree outside the KSC Headquarters building Oct. 16. They were commemorating their stay as Expedition 2 crew members aboard the International Space Station. Expedition 2, which also included cosmonaut Yuri Usachev, made the space voyage to the Station on mission STS-102 in March 2001. After five months on the Station, the crew returned to Earth, at the KSC Shuttle Landing Facility, on mission STS-105 in August 2001.

## Four astronauts to be inducted into Hall of Fame

The largest contingent of former astronauts ever to assemble on the Space Coast were set at press time to be at the Kennedy Space Center on November 9-10 for the induction of the first four Space Shuttle astronauts into the U.S. Astronaut Hall of Fame.

Thirty-four space explorers from the Mercury, Gemini, Apollo, Skylab, Apollo-Soyuz and Space Shuttle projects were to pay tribute to Robert Crippen, Joe Engle, Frederick "Rick" Hauck and Richard Truly.

"This terrific turnout is a tremendous tribute to these four veteran shuttle commanders, who will join 44 Mercury, Gemini and Apollo astronauts already enshrined," said Apollo 13 commander James Lovell, chairman of the Astronaut Scholarship Foundation.

The foundation is hosting the event, in cooperation with Delaware North Park Services Inc., which operates the KSC Visitor Complex. Throughout the weekend the astronauts will meet with the public, answer questions and sign autographs.

The enshrinement of the four shuttle astronauts was set for 2 p.m. Saturday at the Visitor Complex.

# 20 years ago: STS-2 launch lit the sky

Workers at Kennedy Space Center overcame many obstacles to send the second Shuttle mission of NASA's Space Launch Program into space 20 years ago.

Space Shuttle Columbia lifted off from Launch Pad 39A, Nov. 12, 1981, carrying Commander Joseph Engle and Pilot Richard Truly on Mission STS-2. It was the first re-flight of Orbiter Vehicle 102, Columbia.

Originally set for Oct. 9, 1981, the launch was rescheduled to Nov. 4 due to a nitrogen tetroxide spill that occurred during loading of the forward reaction control system.

On Nov. 4, the launch was delayed and then scrubbed when fuel cell oxygen tank pressures gave a low reading. Launch occurred at 10:09:59 a.m. EST, on Nov. 12, after a slight delay.

Ted Sasseen, then NASA's director of engineering, recalls, "For all the problems which occurred during launch processing, the very first turn-around, and the very first re-flight, we didn't do half bad."

Ann Montgomery, site manager of the Orbital Processing Facility in 1981, commented, "My first reaction was that the second launch was surely easier than the first one."

Montgomery, now deputy director of Safety, Health and Independent Assessment, added, "I began to realize that it would be a long time before a Shuttle launch would be routine and that we

## Remembering Our Heritage



The second Shuttle mission, STS-2, launched on Nov. 12, 1981.

would need to continue working hard to make each one safe."

The mission was cut from its originally scheduled five days to almost three days, yet the crew still achieved 90 percent of the mission objectives.

These included testing the Canadian-built remote manipulator

system for the first time, and carrying the Office of Space and Terrestrial Applications-1 (OSTA-1) Earth observation experiments, mounted on the Spacelab pallet in Columbia's payload bay, to gather data for scientists. Remote Earth-sensing experiments, including one that measured the Earth's air

*"Although we had gone through STS-1 and had a safe and successful launch, we were still dealing with new and different problems with STS-2. Each day that we came to work we were met by new challenges."*

JEFF WHEELER,  
CLCS USER LIAISON

pollution, were also carried aboard Columbia. After the mission, Columbia landed on Runway 23 at Edward Air Force Base, Calif., at 1:23 p.m. PST, Nov. 14, 1981.

Conrad Nagel, VAB site manager in 1981, remembers STS-2's processing was easier than STS-1, the first Space Shuttle Launch. "We understood the vehicle requirements so much better and the VAB processing time was much shorter."

Nagel, now chief of the Shuttle Project Office added, "STS-2 was less stressful for the whole team."

Jeff Wheeler, a NASA orbiter flight electrical engineer at the time, and now a Checkout and Launch Control System (CLCS) user liaison, summed it up this way, "Although we had gone through STS-1 and had a safe and successful launch, we were still dealing with new and different problems with STS-2. Each day that we came to work we were met by new challenges."

## CFC posts strongest year

This year's Combined Federal Campaign at Kennedy Space Center set an all-time contribution record.

More than 80 percent of the NASA workforce generously contributed nearly \$301,000, far exceeding the goal of \$250,000.

More than \$105,000 was contributed to local charities.

The theme for this year's campaign was "United We Care!"

The CFC provided the perfect opportunity to get personally involved and show unity in the



wake of the Sept. 11 terrorist attacks.

The campaign kicked off Oct. 1 in the training auditorium and came to a close on Oct. 31.



John F. Kennedy Space Center

## Spaceport News

*Spaceport News* is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations and Business Development in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted two weeks before publication to the Media Services Branch, XAE-1. E-mail submissions can be sent to Katharine.Hagood-1@ksc.nasa.gov

Managing editor. . . . . Bruce Buckingham  
Editor. . . . . Kathy Hagood

Editorial support provided by InDyne Inc. Writers Group.  
NASA at KSC is located on the Internet at <http://www.ksc.nasa.gov>

USGPO: 633-096/00069